Remarks

Reconsideration and withdrawal of the Examiner's rejections are requested respectfully.

Status of the Claims

Claims 1, 7, 12, 13, 17, and 19 have been amended. No claims have been deleted or added. Accordingly, Claims 1 to 20 are presented for examination.

Bases in the specification for the claim amendments are as follows.

Basis for the pH range added to Claims 1, 13, 17, and 19 appears in the specification, page 9, penultimate and last lines. Bases for the claim amendments respecting lithium or sodium silicate and a mixture of sodium and lithium silicates, as set forth in Claims 1, 7, 12, 13, and 19 appear in the specification in the sentence bridging pages 5 an 6 and the first complete sentence on page 6.

Summary of the Examiner's Rejections

The Examiner's rejections of all of the claims of the application are based on two primary references, namely U.S. Patent No. 4,537,632 to Mosser (hereafter "'632 Mosser") and U.S. Patent No. 4,917,960 to Hornberger et al. (hereafter "'960 Hornberger"). The "'632 Mosser" and "'960 Hornberger" rejections include both § 102 and § 103 rejections.

Prior to considering applicants' responses to the rejections, the Examiner is referred to applicants' summary of their invention as set forth in applicants' Reply filed

on April 3, 2009 in the paragraph bridging pages 8 and 9 and the first complete paragraph on page 9 of the Reply.

Discussion of the Examiner's Rejections

For reasons set forth below, the Examiner's rejections based on the aforementioned primary references are traversed respectfully.

Discussion of the '632 Mosser Rejections

Claims 1, 2, 4 to 12, 19, and 20 have been rejected as being anticipated by the disclosure of the '632 Mosser patent. Among these claims, Claims 1, 7, 12 and 19 are independent claims with Claims 2 and 4 to 6 being dependent directly or indirectly on Claim 1, Claims 8 to 11 being dependent on Claim 7, and Claim 20 being dependent on Claim 19. Each of the aforementioned independent claims has been amended to define the coating composition referred to therein (Claims 1 and 19) as having a pH of about 11 to about 14 or the coating referred to therein (Claims 7 and 12) as being formed from a coating composition which has a pH of about 11 to about 14. As explained below, such amendment distinguishes over the disclosure of the '632 Mosser patent.

This primary reference discloses a development which involves the use of a particular type of aluminum particles in coating compositions which are capable of forming corrosion–resistant coatings on metallic surfaces. The patent discloses in the main use of the aluminum particles in aqueous coating compositions which include a binder of the chromate/phosphate type (see column 4, lines 56 to 60, and the compositions described in the eight examples, columns 12 to 16 of the patent).

In addition, the '632 Mosser patent discloses incidentally the use of the aluminum particles in aqueous coating compositions in which the binder is an alkali metal silicate, for example, potassium or sodium silicate (column 10, first complete paragraph). This

reference discloses further that the pH of the aqueous binders (coating compositions) described in the patent "...is preferably, but not necessarily in the range of about 0 to about 3.0, preferably in the range of about 1.5 to about 2.5." (column 10, lines 49 to 51, of the patent). There is no disclosure in this primary reference respecting a silicate-containing composition which has a pH of about 11 to about 14 as recited in applicants' amended claims.

Accordingly, it is requested respectfully that the Examiner withdraw his § 102 rejections of independent Claims 1, 7, 12 and 19 and the claims which are dependent thereon.

As to the § 103 rejections based on the '632 Mosser primary reference, the Action includes "obvious" rejections of Claims 3 and 13 to 18 based on the disclosure of the primary reference in view of the disclosures of three secondary references which are cited against various claims as identified below. As explained above, all of applicants' claims distinguish over the disclosure of the primary reference in reciting a pH range of about 11 to about 14. The present § 103 rejections are traversed respectfully at least for the reason that none of the secondary references discloses a composition which includes the aforementioned pH range. Please consider the following comments on the disclosure of each of the secondary references.

U.S. Patent No. 5,478,413 to Mosser et al. (applied against Claim 3) discloses that the aqueous-based coating compositions thereof (none of which are silicate-containing compositions) have a pH of about 2.0 to about 4.5, with no reference being made to a higher pH (see column 3, lines 55 to 61, of the patent).

U.S. Patent No. 5,998,525 to Wang et al. (applied against Claims 13 to 16) discloses an aqueous-based coating composition that is characterized as a hybrid in that it includes a mixture of binders, namely an organic material capable of being polymerized and crosslinked and an inorganic material, for example, an alkali metal

silicate. There is no disclosure in the patent respecting the pH of the coating composition. The only reference in the patent to pH is the disclosure that an acrylic resin emulsion (an ingredient of the composition) is stabilized at a pH of 9 (see column 7, lines 29 to 32, of the patent).

U.S. Patent No. 4, 219,358 to Hayashi et al. (applied against Claims 17 and 18) discloses an aqueous-based coating composition which contains an alkali metal silicate; this reference does not disclose the pH of any of the compositions described therein.

In summary, there is no disclosure in any of the above three secondary references which would lead one skilled in the art to formulate a silicate-containing composition of the type described in the primary reference in a manner such that the resulting composition would have a pH of about 11 to about 14. For this reason alone, it is requested that the Examiner withdraw the § 103 rejections based on the '632 Mosser primary reference. Applicants recognize, however, that there are additional reasons why the present § 103 rejections are not sound.

Discussion of the '960 Hornberger Rejections

Claims 1, 2, 4, 7 to 12 and 19 have been rejected as being anticipated by the disclosure of the '960 Hornberger patent. Among these claims, Claims 1, 7, 12, 13, and 19 are independent claims, with Claims 2 and 4 being dependent directly or indirectly on Claim 1, and Claims 8 to 11 being dependent on Claim 7.

The Examiner's § 102 rejection is basically a repeat of the "Hornberger" anticipatory rejection set forth in the previous Action of October 3, 2008. In response to that Action, applicants filed a Reply on April 3, 2009 in which it was pointed out that the porous coatings formed from the coating composition described by Hornberger et al. were the antithesis of the coatings defined in applicants' claims and that applicants' coating composition was distinctively different from the porous-forming composition of

the reference. Applicants' aforementioned Reply explained that the claims of the present application distinguish over the disclosure of the reference in that they characterize the coating composition as being capable of forming a corrosion-resistant coating and the coating is defined as being corrosion-resistant. Furthermore, applicants' claims distinguish further over the reference in defining the composition as "consisting essentially of" the stated ingredients. The term "consisting essentially of" restricts the scope of a claim to the specified materials and also to a material that does not materially affect the basic and novel characteristic(s) of the claimed invention. Accordingly, applicants' claims exclude from their scope the presence of a "fugitive material", as disclosed in the reference as being responsible for the formation of the porous coating.

The Examiner's response to applicants' aforementioned traversal of the § 102 rejection appears in paragraph 41 on pages 15 and 16 of the Action. In that response, the Examiner refers to the Hornberger et al. description of coatings which do not have interconnecting porosity (that is, the porosity is in the form of "isolated" voids, as described in the reference, or in the words of the Examiner "closed" porosity). The Examiner expresses the opinion that such coatings would be corrosion-resistant because they would not permit the passage of moisture.

With all due respect, it is submitted that the Examiner's opinion is not based on logic nor on any disclosure which appears in the reference. A coating which is porous, whether it be in the form of isolated voids or "closed porosity" or not "through" porosity, is a coating which is not corrosion-resistant. And the patent disclosure itself is evidence of this; the patent contains no disclosure whatsoever that characterizes the coatings described therein as being corrosion-resistant or having corrosion-resistant properties. It was not the intent of the inventors to prepare a composition that was effective in forming a corrosion-resistant coating. The inventors' goal was to form a coating that could be used to advantage in coating the metallic surface of a heat exchanger and thereby promote the more efficient transfer of heat. The other applications identified by

the inventors (see the paragraph bridging columns 1 and 2 of the reference) for use of their coatings are not described as being applications which involve protection from corrosion.

In view of the above, it is requested respectfully that the Examiner withdraw the § 102 rejection based on the '960 Hornberger patent. If the Examiner persists in maintaining this rejection, it is requested respectfully that he identify in the patent the disclosure which would lead one skilled in the art to conclude that the coatings described therein have corrosion-resistant properties. It is believed that this would help accelerate prosecution of the application.

As to the § 103 rejections based on the '960 Hornberger primary reference, the Action includes "obvious" rejections of Claims 3, 6 and 13 to 18 based on the disclosure of the primary reference in view of the disclosures of four secondary references. The Examiner's § 103 rejections are basically a repeat of the "obvious" rejections set forth in the previous Action of October 3, 2008. In response to those rejections, applicants filed a Reply on April 3, 2009 in which those rejections were traversed. It is submitted respectfully that those traversals effectively address the Examiner's § 103 rejections. Accordingly, it is requested that the Examiner withdraw those rejections.

Respectfully submitted,

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